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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BAREFORD, KATHERINE A

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,815

Applicant(s)

HALMSCHLAGER ET AL.

Examiner

Katherine A. Bareford

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

Claims 1-19 are canceled

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment of August 23, 2004 has been received and entered.

Claims

2. The Examiner notes that applicant in claim 30 requires an "application device configured to apply a viscid medium to the material web", and claim 31 requires that the application device first applies the material to belt, which then applies the material to the web. From this wording, the Examiner understands "application device configured to apply a viscid medium to the material web" to be an applicator configured to apply viscid medium either directly or indirectly to the web.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 20-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20, last two lines and claim 30, lines 11-12, require that the "roll being laterally moveable substantially in said web direction". This is vague and indefinite as to what is actually required, because it is unclear what is meant by substantially. The only indication in the

specification as to the specific roll extending direction is in the figures. In figure 2 the rolls 13 and 8 are shown with arrows indicating movement in the actual web direction. However, in figure 1, roll 13 is shown with an arrow indicating movement at an angle to the web direction, i.e. movement occurs partly in the web direction. However, is no indication as how much movement must be in the web direction for the movement to be "substantially" in the web direction, and the term itself gives no indication as to what amount is required.

The other dependent claims do not cure the defects of the claims from which they depend.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20-25, 27, 29-33, 35-37 and 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laapotti (US 6372090) in view of Laapotti (US 5951821) (hereinafter Laapotti '821).

Laapotti teaches a method of application of liquid through viscid mediums onto the surface of a pre-dried material web. Figure 1 and column 3, lines 15-25 and 45-65 and column 4, lines 20-35 (the web is dried before the first coating treatment and again before the second coating treatment. A viscid medium coating is applied to at least one side of the material web.

Figure 1 and column 3, lines 15-25 and 45-65 (the "treating agent" as described would be a viscid medium coating). The web with applied coating is routed through a press nip. Figure 1 and column 3, lines 45-65. The material web is supported, substantially without free draw, after said routing step. Figure 1 and column 6, lines 1-20 and column 4, lines 20-35. The Examiner notes that as worded claim 20 also would allow for the routing through the press nip to occur before the applying of the coating step. (Laapotti also shows this, at column 1, lines 20-65 (the press nip of elements 3,4) and figure 1).

Claim 21: the supporting step includes supporting the web with at least one flexible continuous belt substantially until the material web reaches a dryer cylinder of a downstream dryer group. Figure 1 and column 3, lines 45-65 and column 4, lines 20-35.

Claim 22: the applying step includes the substeps of applying the viscid medium to an outside surface of a flexible continuous belt. The medium is transferred from the outside surface of the belt to an underneath side of the web. Column 3, lines 45-65 and figure 1.

Claim 23: the belt is configured to also provide support to the web. Figure 1 and column 6, lines 20-30.

Claim 24: the applying step can also include applying the viscid medium to an outside surface of a flexible continuous belt. Column 3, lines 45-65, column 4, lines 20-35 and figure 1. The medium is transferred from the outside surface of the belt to a top side of the web. Column 4, lines 20-35 and figure 1 (the second applicator unit 21).

Claim 25: the belt is also configured to provide support to the material web. Column 6, lines 20-30 and figure 1.

Claim 30: Laapotti also provides a coating device for the web. Figure 1 and column 3, line 20 through column 4, lines 35. An application device is provided to apply a viscid medium indirectly to the material web. Column 3, lines 45-65 and figure 1. First and second support rolls are provided. Column 3, lines 45-65 and figure 1. A belt supported by the first and second support rolls, configured to support the web without free draw is provided. Figure 1 and column 3, lines 45-65. A press shoe is provided proximate to the continuous belt, forming a press nip therebetween. Figure 1 and column 3, lines 45-65. The nip is located downstream from the application device. Figure 1 and column 3, lines 45-65.

Claim 31: the application device includes a first application device located proximate to an outside surface of the continuous belt where the first support roller is in contact with the belt. Figure 1 and column 3, lines 45-65. The first application device is configured to apply medium to the belt for subsequent transfer to the web. Figure 1 and column 3, lines 45-65.

Claim 32: the device can further include a plurality of guide rollers. Figure 1 and column 3, lines 45-65. An application roll is also provided. Figure 1 and column 3, lines 45-65 and column 4, lines 20-35. An other continuous belt disposed around the application roll and guide rollers is provided. Figure 1 and column 3, lines 45-65. The other belt is configured as a press belt. Figure 1 and column 3, lines 45-65 (note that the second applicator unit is an inverted version of the first). A second application device is disposed proximate to an outside surface of the other belt. Figure 1 and column 3, lines 45-65 and column 4, lines 20-35. The application roll is in contact with the other belt. Figure 1 and column 3, lines 45-65. The second application

device is configured to deliver a viscid medium to the other belt for subsequent transfer to an other side of the web. Figure 1 and column 3, lines 45-65 and column 4, lines 20-35.

Claim 33: the device further comprises a dryer section with at least one dryer cylinder. Column 6, line 60 through column 7, line 10 (for example) and figure 3. At least one of the belts supports the web substantially to the at least one dryer cylinder. See figures 1 and 3.

Claim 36: the device can further include a suction roll downstream of the press nip. See column 3, lines 20-45 and column 4, lines 20-35 and figures 1 and 3. The suction roll is configured to transfer the material web to the dryer cylinder. See column 3, lines 20-45 and column 4, lines 20-35 and figures 1 and 3.

Claim 38: the device is configured to produce board base paper, which would include corrugated board base paper. Column 3, lines 20-30.

Laapotti teaches all the features of these claims, except (1) the penetration segment length (claims 27 and 35), (2) the web dryness prior to coating (claim 29), (3) the drive (claim 37), (4) the adjustable guide rolls (claim 38) and (5) the extensible support surface with movable second support roll (claims 20 and 30). Laapotti does teach that a penetration segment is provided after application and before the nip. See figure 1. Laapotti further teaches that an "extended nip" is provided by the contact between the belt of the transfer fabric 14 and the belt 18. Column 3, line 45 through column 4, line 25 and figure 1. This extended nip is at least 50 mm in length. Column 3, lines 15-20. Laapotti further teaches that when a web is usually formed in a paper making process, it is dried to only about 2-4 % moisture content, and that the present invention allows there to be more moisture present, before applying the treating agent. See column 2, lines

15-50. Laapotti further teaches that transfer fabric 14 which supports the web with rolls 16 and the others shown around it in figure 1 is made from a permeable fabric which removes water from the web. See column 3, lines 45 through column 4, line 10.

Laapotti '821 teaches that when providing permeable fabric belts that support a web into a press nip formed by rollers, it is desirable that the support surface be extensible. See figures 2, 5 and 6, column 1, lines 10-25 and column 11, lines 10-30. This is provided by providing guide or support rolls (such as 22S and 32S) that move up and down relative to the other support rolls, thereby shortening or lengthening the portion of the belt (i.e. support surface) in contact with the web. See figures 2, 5 and 6 and column 11, lines 10-30. The support surface is extensible in the web direction (the moving direction of the web). See figure 6, for example, where the support roll is shown moving at an angle in regard to the moving direction of the web (the web is moving towards roll 52); as shown, the belt clearly extends closer to roll 81 (in the direction of movement of the web) as well as moving up and down (providing an extension of the belt in the direction of the web). This provides lateral movement (i.e. side to side movement of the roll, since the movement in the direction of the web allows side to side movement from the start point to the end point of movement). It also provides movement "substantially" in the web direction to the extent claim, since at least some movement occurs in the web direction, and as discussed in the 35 USC 112 rejection above, there is no clarity as to how much movement is required for it to be "substantial" movement.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Laapotti to (1) perform routine experimentation to optimize the extended nip

length, given the teaching that the extended nip provides desirable benefits and should be at least 50 mm long, and as a result of this optimization also providing the 100 mm length "penetration segment", which would be the portion of the "extended nip" prior to the press nip. (2) It further would have been obvious to perform routine experimentation to optimize the dryness prior to the coating treatment, since Laapotti teaches that this process provides drying before coating and also teaches that a greater moisture then 2-4 % can be desirably provided. (3) it would further have been obvious to provide a drive device for the belts with an expectation of desirably controlled coating, because Laapotti teaches that the belts are guided around rolls and movement of the rolls/belt must be provided with some source, and it is well known in the art that belts would be driven by a drive source. (4) it would further have been obvious to make at least one of the guide rolls for the belts adjustable with an expectation of desirably controlled coating results, because this would allow for the control of the extended nip length (as discussed in 1 above), and allow for the use of the system with different coatings and materials with the nip length optimized for these different materials. (5) it would further have been obvious to modify Laapotti to provide for an extensible support surface in contact with the web as suggested by Laapotti '821 to provide optimal drying of the web because Laapotti teaches providing a belt support surface that is permeable to provide dewatering and Laapotti '821 provides that it is desired to provide an adjustable surface in contact with the web when using a belt support surface in dewatering treatments. As shown by Laapotti '821 the belt can be extended in the direction of the web movement (see figure 6). This would at least suggest that the support surface is "extensible" in the web direction with lateral movement substantially in the web direction, since only roll 22S is

shown or suggested as moving, thus indicating that the belt would desirably stretch or extend in order to pass around the roll 22S that has moved in the web direction.

7. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Laapotti in view of Laapotti '821 as applied to claims 20-25, 27, 29-33, 35-37 and 38-39 above, and further in view of Lindsay et al (US 6228216).

Laapotti in view of Laapotti '821 teaches all the features of this claim except the web mass.

However, Lindsay teaches that when paper webs using a papermaking machine, desirable webs can be formed with a mass of, for example, 15-40 g/m². Column 3, line 60 through column 4, line 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Laapotti in view of Laapotti '821 to use a web mass of 15-40 g/m² as suggested by Lindsay with an expectation of desirable coating results, because Laapotti in view of Laapotti '821 teaches a desirable treatment method for paper webs formed by a papermaking machine and Lindsay teaches that a desirable weight for paper webs formed by a papermaking machine is 15-40 g/m².

8. Claims 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laapotti in view of Laapotti '821 as applied to claims 20-25, 27, 29-33, 35-37 and 38-39 above, and further in view of Japan 48-041007 (hereinafter '007).

Laapotti in view of Laapotti '821 teaches all the features of these claim except applying the medium incrementally to a plurality of belts and supporting the material with at least one belt.

However, '007 teaches a method for applying coating material to a running web using belts and nip rollers. See the abstract and figures 1-2. As shown by figures 1-2, the coating can be applied to a single belt or applied to multiple belts incrementally. (note the lower belt/belts). The lower belt/belts would also support the web. Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Laapotti in view of Laapotti '821 to use multiple belts to coat incrementally as suggested by '007 with an expectation of desirable coating results, because Laapotti in view of Laapotti '821 teaches a desirable treatment using coating belts for a web and '007 teaches that a it is desirable to coat a web with a single belt or use multiple belts and an incremental coating.

Response to Arguments

9. Applicant's arguments filed August 23, 2004 have been fully considered but they are not persuasive.

Applicant argues that the references do not teach or suggest the claimed lateral movement of the roll substantially in the same direction of the material web, as the support rolls move up and down relative to the other support rolls, thereby lengthening or shortening the portion of the belt in contact with the web.

The Examiner has reviewed these arguments, however, the rejection is maintained. As discussed in the rejection above, Laapotti '821, teaches that when providing permeable fabric belts that support a web into a press nip formed by rollers, it is desirable that the support surface be extensible (See figures 2, 5 and 6, column 1, lines 10-25 and column 11, lines 10-30). The Examiner noted that, this is provided by providing guide or support rolls (such as 22S and 32S) that move up and down relative to the other support rolls, thereby shortening or lengthening the portion of the belt (i.e. support surface) in contact with the web (See figures 2, 5 and 6 and column 11, lines 10-30). However, the Examiner further noted that, the support surface is extensible in the web direction (the moving direction of the web). See figure 6, for example, where the support roll is shown moving at an angle in regard to the moving direction of the web (the web is moving towards roll 52); as shown, the belt clearly extends closer to roll 81 (in the direction of movement of the web) as well as moving up and down (providing an extension of the belt in the direction of the web). This provides lateral movement (i.e. side to side movement of the roll, since the movement in the direction of the web allows side to side movement from the start point to the end point of movement). It also provides movement "substantially" in the web direction to the extent claim, since at least some movement occurs in the web direction, and as discussed in the 35 USC 112 rejection above, there is no clarity as to how much movement is required for it to be "substantial" movement.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:30-4:00) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for

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KATHERINE BAREFORD
PRIMARY EXAMINER